

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQO 2003 - 0014

In the Matter of the Petition of

SACRAMENTO COUNTY

For Review of Waste Discharge Requirements

Order No. 5-01-256

For Sacramento County Boys Ranch Wastewater Treatment Facility

Issued by the

California Regional Water Quality Control Board,

Central Valley Region

SWRCB/OCC FILE A-1431

BY THE BOARD:

On October 19, 2001, the Central Valley Regional Water Quality Control Board (Regional Board) adopted Order 5-01-256 revising waste discharge requirements (WDRs) for the Sacramento County Boys Ranch (Boys Ranch) wastewater treatment facility. The requirements regulate the discharge of domestic wastewater to unlined sewage/evaporation ponds owned and operated by Sacramento County (County). The State Water Resources Control Board (State Board or Board) received a timely petition from the County to review the order.¹ Following settlement discussions, the County and the Regional Board resolved eleven issues raised in the petition and signed a stipulation agreeing to modify Order No. 5-01-256.² The State Board will retain jurisdiction over the issues agreed to be modified by the Regional Board if the Regional

¹ The Regional Board has requested that a Draft Technical Report prepared by Brown and Caldwell, dated August 15, 2002, and Regional Board comments on the report be included in the administrative record pursuant to Cal. Code Regs., tit. 23, § 2066(b). The County objects to the report being included in the record and states in a letter dated April 24, 2003, that the report was developed as a tool to facilitate settlement negotiations and not intended as material or evidence to support the County's petition. Statements made and information produced during the settlement meetings were agreed to be confidential by the attendees and neither the Brown and Caldwell Report nor the Regional Board's comments on said report are to be included in the administrative record.

² See Letter from Kristen T. Castaños on behalf of Sacramento County, dated February 21, 2003, including signed stipulation.

Board fails to modify Order No. 5-01-256 in conformance with the stipulation. This order addresses four unresolved issues raised by the County.³ For the reasons discussed herein, WDR Order No. 5-01-256 is upheld in part and remanded in part.

I. BACKGROUND

The Boys Ranch is a Sacramento County youth correctional facility with a population of approximately 100 wards and 70 staff. The Boys Ranch is located 12 miles south of Folsom and approximately one mile west of Scott Road in Sacramento County. The wastewater treatment facility (WWTF) for the Boys Ranch was built in 1966 and consists of a gravity collection system, a 9,000-gallon temporary storage/holding tank, a sewage distribution box, and two raw sewage evaporation/percolation ponds. The WWTF receives primarily domestic wastewater. The design flow for the WWTF is 15,000 gallons per day (gpd) average dry weather flow. The current average dry weather flow is approximately 8,500 gpd and is discharged to the WWTF. There is no active treatment of the wastewater; the raw sewage receives only passive treatment from ambient conditions before it percolates into the ground. The wastewater collection system and the wastewater ponds are owned and operated by Sacramento County.

Beneficial uses of the groundwater underlying the Boys Ranch are municipal, industrial, and agricultural supply.⁴ Drinking water is supplied to the Boys Ranch from a drinking water well located upgradient of the wastewater treatment facility. Surface water drainage at the Boys Ranch is to Carson Creek, a tributary to Dry Creek, which in turn discharges to the Cosumnes River. Beneficial uses of the Cosumnes River are municipal and domestic supply; agricultural irrigation and stock watering; contact, rafting, and other noncontact recreation; warm and cold freshwater habitat; migration for warm and cold water species; spawning for warm and cold water species; and wildlife habitat.⁵

II. CONTENTIONS AND FINDINGS

³ See *People v. Barry* (1987) 194 Cal.App.3d 158 [239 Cal.Rptr. 349]; Cal. Code Regs., tit. 23, § 2052(a)(1).

⁴ See The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region, Fourth Edition, at II-2 and II-3.

⁵ *Ibid.* Basin Plan at Table II-1, lines 57-59.

1. Contention: The petition contends that the Regional Board improperly required the County to install a monitoring well network. The County objects to the requirement for three reasons: (1) the requirement is inconsistent with the Water Code and Water Quality Control Plan for the Central Valley Region (Basin Plan), (2) the evidence in the record does not support the installation of a groundwater monitoring network and sampling program; and (3) the burden of the monitoring system is not reasonably related to the need for information as required by Water Code section 13267.

Finding: The Regional Board properly required the installation of a groundwater monitoring well network.

(1) Water Code section 13263 states in part that the Regional Board shall prescribe requirements as to the nature of an existing discharge and that the requirements shall implement relevant basin plans and shall take into consideration the beneficial uses to be protected. The Basin Plan requires the Regional Board to maintain the high quality waters of the state unless it can be demonstrated that any change will not unreasonably affect beneficial uses and will not result in water quality that exceeds the water quality objectives described in the Basin Plan.⁶ The evaporation/percolation ponds at the Boys Ranch have the potential to affect underlying groundwater. The groundwater is shallow, there is only passive treatment of the waste before it enters the groundwater, disposal is accomplished through ponds that are not lined, and the discharge has been occurring for 36 years.⁷ Monitoring groundwater will enable the Regional Board to determine if the Boys Ranch discharge is unreasonably affecting beneficial uses and is consistent with both the Water Code and the Basin Plan.

(2) As stated above, the beneficial uses of the groundwater include municipal, industrial, and agricultural supply. Groundwater monitoring was not previously conducted at the site; therefore, data are not available to establish the most appropriate groundwater limits.⁸ Wastewater from this facility has the reasonable potential to affect the quality of the underlying

⁶ *Ibid.* Basin Plan at IV-16 to IV-18.

⁷ See Transcript of Regional Board October 19, 2001, Hearing, Item 22b, Sacramento County, Sacramento Regional Sanitation District, Sacramento County Boys Ranch, Sacramento County (Update) page 8, lines 4 - 8.

⁸ *Ibid.* at page 6, lines 5-7. See also Regional Board Information Sheet Order No. 5-01-256, page 2.

groundwater.⁹ The facility has experienced four sanitary sewer overflows since December 1999.¹⁰ Monitoring groundwater at a site that has discharged wastewater to unlined ponds for 36 years in an area with shallow groundwater is appropriate to determine the impacts on water quality and whether there are unreasonable effects on the designated beneficial uses. This evidence supports the requirement of a groundwater monitoring network and sampling.

(3) The County argues that the burden of a monitoring well system is not reasonably related to the information to be obtained in violation of Water Code section 13267 and “its recent amendments.”¹¹ The “recent amendments” to which the County refers are found in AB 1664 and took effect on January 1, 2002, more than two months after the Regional Board adopted the WDRs Order No. 5-01-256.¹² Substantive or procedural legislation operates prospectively, unless the Legislature clearly indicates that it is intended to operate retroactively.¹³ The statute itself must express the Legislature’s intent that the statute apply retroactively; the intent cannot appear in legislative history or in another statute.¹⁴ AB 1664 does not indicate that the amendments to Water Code section 13267 apply retroactively. AB 1664’s new procedural requirements requiring a Regional Board to explain the basis for requiring technical or monitoring reports pursuant to Water Code section 13267, in this case the monitoring well network to obtain monitoring data, do not apply to WDR Order No. 5-01-256, which was adopted prior to January 1, 2002.

2. Contention: The County further contends that the Regional Board inappropriately established interim limits in Groundwater Limitations D.1.a for boron, chloride, sodium, total coliform organisms, and total dissolved solids and in Groundwater Limitations

⁹ WDR Order No. 5-01-256, page 5, Finding 26.

¹⁰ *Ibid.*, page 3, Finding 15.

¹¹ At the State Board workshop, the County requested that the issue of the cost of installing monitoring wells versus the need for information on the facility’s impacts on groundwater be addressed. Cost estimates for well installation provided by the County and the Regional Board differ. The Regional Board should consider this issue during reconsideration of Order No. 5-01-256.

¹² The amendments require the Regional Board, in requesting a technical report, to provide the person with a written explanation of the need for the reports, and to identify the evidence that supports requiring the reports.

¹³ *Evangelatos v. Superior Court* (1988) 44 Cal.3d 1188, [246 Cal.Rptr. 629]; *Tapia v. Superior Court* (1991) 53 Cal.3d 282, 287-288, 279 Cal.Rptr. 592.

¹⁴ *DiGenova v. State Board of Education* (1962) 57 Cal.2d 167, [18 Cal.Rptr. 369]; see also 30 Ops.Cal.Atty.Gen. 130, 134.

D.1.b, which refers to constituents not listed in D.1.a. The petition further raises the issue of monitoring groundwater for only wastewater constituents. In addition, the County contends that the groundwater is not used for municipal supply and that the groundwater coliform limit should be 2.2 MPN/100 ml not nondetect.

Finding: The Regional Board adequately substantiates the need for groundwater limits in the Order's Findings and Information Sheet.¹⁵ WDRs, including water quality limitations, are designed to protect the beneficial uses of surface and groundwater and, in this case, interim limitations were established until additional data are submitted by the County and reviewed by the Regional Board. Due to the absence of data, it is appropriate for the Regional Board to establish water quality limitations.

The Regional Board does not explain, however, why groundwater limitations in D.1.b. or groundwater monitoring were not limited to the constituents known to exist in the wastewater, is not a breakdown product of wastewater constituents, or is not leachable from the soil as a result of conditions caused by the discharge. Some constituents of wastewater found in the influent and the pond are listed in WDR Order No. 5-01-256.¹⁶ If the wastewater characterization is inadequate, the Regional Board must require the County to further characterize its wastewater. That information should then serve as the basis of the groundwater limitations and the groundwater monitoring program. Further, if the Regional Board finds, based on substantial evidence, that the wastewater discharge may create conditions that leach minerals and metals from the soil and finds that these leached constituents, although not in the wastewater itself, could affect groundwater, wastewater limitations and groundwater monitoring may be appropriate. If a constituent is not found in the wastewater or is not a breakdown product of wastewater constituents, it should not be included in the groundwater limitations or in the groundwater monitoring program for this site.

Groundwater in the area of the Boys Ranch is designated for municipal or domestic supply uses. The Basin Plan contains a water quality objective for bacteria that applies to groundwater that states: "In groundwaters used for domestic or municipal supply (MUN) the most probable number of coliform organisms over any seven-day period shall be less

¹⁵ Regional Board Information Sheet Order No. 5-01-256, pages 3 and 4.

than 2.2/100 ml.” Since the groundwater is designated for municipal or domestic supply, a groundwater limitation for coliform of less than 2.2 MPN/100 ml is appropriate.

2.2 MPN/100 ml is also the level at which coliform can be detected. To provide more specificity, Waste Discharge Order No. 5-01-256 should be revised to include a numeric groundwater limitation consistent with the Basin Plan.

3. Contention: The County contends that the Regional Board should have included a “mixing zone” for compliance with the groundwater limitations.

Finding: The Regional Board acted within its discretion in not including a “mixing zone” for compliance with groundwater limitations. The County argues that the Basin Plan states that water quality objectives may apply at “the edge of a mixing zone” and, therefore, the County is entitled to a mixing zone. The Regional Board’s Basin Plan specifically authorizes “mixing zones” only in NPDES permits and stormwater permits. This provision does not apply to groundwater. Rather, assimilative capacity in groundwater is governed by California Water Code section 13263(b). The application of groundwater limitations is made on a case-by-case basis. Because there is no technical information regarding the impact of the Boys Ranch sewage ponds on underlying groundwater, the Regional Board prepared the WDRs to require the County to gather the necessary information.¹⁷ The WDRs contain “interim” Groundwater Limitations that the Regional Board will review for modification once the County submits additional technical information.¹⁸ With respect to groundwater or surface water, however, the Regional Board need not authorize the full utilization of the waste assimilative capacity¹⁹ and must consider other waste discharges and factors that affect the capacity. There is no evidence in the record to show that the groundwater underlying the Boys Ranch has assimilative capacity. Without such evidence, it is appropriate for the Regional Board to refuse to allow further discharge in violation of groundwater limits.

4. Contention: The County contends that there is no evidence to support the dissolved oxygen (DO) requirement or the requirement to install aeration equipment if

¹⁶ WDR Order No. 5-01-256, page 2, Findings 10 and 11.

¹⁷ See Regional Board Response to Petition, dated February 25, 2002, page 14.

¹⁸ Order No. 5-01-256, Provision F.2, page 15.

¹⁹ Wat. Code § 13263(b).

monitoring shows that the wastewater in the disposal ponds contains DO concentrations less than 1.0 mg/l.

Finding: The record contains adequate evidence supporting a DO requirement in Discharge Specification B.4 of Order 5-01-256. The basis of the DO limitation in the ponds is the Basin Plan's narrative objective for nuisance control.²⁰ The requirement to maintain 1.0 mg/l of DO or more in wastewater ponds has been a practice in the Central Valley for more than 20 years based on empirical evidence gathered during recurring nuisance problems created by poorly operated municipal pond systems throughout the valley.²¹ The 1.0 mg/l DO limit is also generally accepted by both regulators and the regulated community as a threshold to gauge the adequacy of oxygen concentration in aerobic pond systems: when the DO goes below 1.0 mg/l, the pond could potentially have an odor problem; when the DO is above 1.0 mg/l, the pond would not have an odor problem.²² Therefore, the Regional Board's record contains adequate evidence supporting the DO requirement.

The requirement to install aeration equipment when the DO is less than 1.0 mg/l or when the WWTF ponds cause nuisance odors is not supported in the record. The record shows that from May 1993 to April 2001, there was only one incident the pond DO being less than 1.0 mg/l. DO was detected at 0.6 mg/l when the pond contained only six inches of wastewater, yet no odor was detected at that time. Since there is no other history of DO below 1.0 mg/l and there have been no complaints about odor, the requirement to install aeration when the DO is less than 1.0 mg/l or when the WWTF ponds cause a nuisance is unnecessary.

III. CONCLUSIONS

For the reasons explained above, the State Board concludes:

1. The Regional Board had the legal authority to require a groundwater monitoring network.
2. The Regional Board had the legal authority to establish interim limits in Groundwater Limitations D.1.a and D.1.b. The Regional Board must require the County to

²⁰ See Basin Plan at III-10.00.

²¹ See Regional Board Response to Petition, dated February 25, 2002, page 15.

²² See Staff Report of the SWRCB Division of Water Quality, dated May 27, 2003, page 5.

characterize the wastewater and then use the wastewater characteristics and conditions that may be caused by the wastewater discharge as the basis for the groundwater limitations and the groundwater monitoring program. The Regional Board must specify the groundwater coliform limit as less than 2.2 MPN/100 ml.

3. It is appropriate for the Regional Board to use its discretion to not consider a mixing zone for groundwater.

4. It is appropriate for the Regional Board to impose the DO requirement in Discharge Specification B.4.

5. The Regional Board must delete the requirement of Provision F.3 to install aeration equipment when the DO is less than 1.0 mg/l or when the WWTF ponds cause nuisance odors since the requirement is not supported in the record.

6. The State Board will retain jurisdiction over the issues agreed to be modified by the Regional Board in the stipulation order between the County and the Regional Board if the Regional Board does not modify the Order in conformance with the stipulation.

IV. ORDER

IT IS HEREBY ORDERED THAT Order No. 5-01-256 is remanded to the Regional Board for reconsideration of the groundwater limitations in D.1.a and D.1.b. and the groundwater monitoring program so that the groundwater limitations and monitoring are based on wastewater characteristics or conditions that may be caused by the discharge of wastewater.

IT IS FURTHER ORDERED THAT Order No. 5-01-256 is remanded to the Regional Board for deletion of the requirement of Provision F.3 to install aeration equipment when the DO is less than 1.0 mg/l or when the WWTF ponds cause nuisance odors.

IT IS FURTHER ORDERED THAT if the Regional Board does not modify Waste Discharge requirement Order No. 5-01-256 in conformance with the stipulation order between the County and the Regional Board, the State Board will retain jurisdiction over those issues.

IT IS FURTHER ORDERED THAT in all other respects the petition for review is denied.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 16, 2003.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz
Nancy H. Sutley

NO: None.

ABSENT: Gary M. Carlton

ABSTAIN: None.

Board Member Carlton recused himself.


Debbie Irvin
Clerk to the Board